

cracked open the door to foreign participation in its oil sector several years ago, the terms on offer were unrealistically skinny from the point of view of the 'outside investors. Iran was offering projects with low and fixed rates of return-- in the single digits, and with no real upside potential. Nobody came-- or at least-- stayed. Too many other, far more attractive, opportunities existed elsewhere in the world, as more and more countries scrambled to bid for the attention and the investment of the international oil industry in their own oil sectors.

Iran, therefore, missed a historic opportunity in the early to mid-1990's to bring in the companies to develop and produce from a series of previously-discovered offshore oil fields, or to explore for new ones. By the time Iran's expectations had become more realistic, reasonable and in tune with the rest of the world, that is, by the time the first deal was concluded with Conoco, it was too late. The United States slapped on sanctions, and the door was slammed shut.

While about a dozen projects remain on offer since 1995, the international oil companies have only recently begun to move in, most dramatically in the case of France's Total and Malaysia's Petronas, first with the Sirri project and, last month, with the South Pars project in partnership with Russia's Gazprom. But two projects and three companies are not enough.

Iran needs to get aggressive, very aggressive, and offer terms that are highly competitive with those available elsewhere-- and, I hasten to add, terms that are openly and transparently competitive, not just secretly so. That is, production or profit sharing contracts that allow companies to reap substantial rewards, if successful, to offset the risks-- political and technical-- inherent in this business. And open up the onshore areas of the country, not just the offshore.

Iran's requirements for outside

capital, initially, are in the tens of billions of dollars, and eventually much more. Iran has had no real exploration activity conducted in some 30 years, and its production technology, for the most part, is just as old. In the upstream-- or exploration and production-- arena, 30 years represents many, many generations of technological change. To put this in perspective, the advances in exploration and production technology-- that is, in three-dimensional seismic evaluation, directional drilling, computer hardware and software capability, offshore drilling reach and platform design-- the enhancements in these areas in the past five years have exceeded all the improvements of the previous 25 years. And again, Iran has had limited access even to the technology of those past 25 years, much less to the most recent advances.

Despite its long history of oil production, therefore, Iran is virgin territory in oil terms, at least by the standards of 1997. Many international oil companies drill more wells each in a month, some in a week, than Iran drills in a year.

Iran has had some successes recently in developing a limited local oil services capability, in fabrication of offshore platforms, for example, which has helped stabilize its combined output in the range of 3.5 million barrels a day, where it has languished for years. But operations remain essentially hand-to-mouth. With proper application of technology, capital and management, production can be increased 50 percent in less than five years, and doubled in less than ten.

But that potential cannot be achieved without American companies-- the engine of the international oil industry.

The U.S. companies have in this regard abdicated their role: sitting back while Congress and the Clinton Administration have slapped on sanctions, not only on Iran, but on Libya and Iraq-- three countries which between them have hundreds of billions

of barrels of available oil at very low finding and production costs. These sanctions have been piled on in response to the political and military posture or behavior of these three countries-- a posture and behavior triggered in important part by the mismanagement by successive U.S. administrations of the relationships with these countries. The industry should take the lead in reversing this course, at least with respect to Iran, and the best way to engage the U.S. industry is to offer terms that we, the companies, cannot refuse.

This is a card Iran has not yet played.

Make the commercial terms attractive enough, and the companies will come, stampede-style, trampling the sanctions along the way. Total's aggressive approach to investing in Iran is proof positive that companies follow the money and governments follow the companies.

Indeed, I ask you, do you think the United States would have put on its current sanctions against oil investments in the first place, if American companies had already been operating in Iran? If Conoco or Chevron, Exxon or Enron, Mobil or Mondoil, for example, were well established and in place two years ago? I think not.

Iran now needs to remove all remaining obstacles to outside investment in its oil industry. Encourage it. Offer very attractive terms. Commercial terms, not politically correct ones. Target the U.S. companies. For by insulating and separating investment decisions from domestic political considerations, Iran also insulates and protects its energy sector from the vagaries of international politics.

I wince as I listen to myself say these words. For this, I am afraid, is a lesson lost on us in the United States, where foreign investment decisions and commercial interests are too often hostage to domestic political considerations. Or at least to domestic electoral prerogatives.

northern part of the country, not far from the Caspian Sea, whereas Iran's oil production and reserves-- both onshore and offshore-- are in the south.

Substantial volumes of oil, therefore, have to be pumped the length of the country from south to north to the refineries at Tehran and Tabriz. If one had to do it again, Iran would have been better served if the oil it exports (about two-thirds of total output) were located in the Persian Gulf, and the oil it consumes domestically (the remaining one-third) were located north in the Caspian Sea.

By the same token, the Central Asian Republics would have been better served if the oil they use domestically remained in the Caspian Sea region, and the rest-- that is, the balance to be exported-- were located in the Persian Gulf.

Each side has something the other wants and needs. Swaps-- and trade-- are the efficient and obvious answer to this accident of geography and geology.

In fact, the ultimate swap would be to exchange actual fields, with, for example, Iran giving Azerbaijan a field in the Persian Gulf in exchange for an equivalent-sized field in the Caspian Sea.

Shy of that solution, which would really stir up lawyers and politicians in Washington, production swaps can and should take place. Iran's northern refineries have a combined capacity somewhat shy of 500,000 barrels a day. Iran can take at least that amount of oil from its Caspian Sea neighbors in exchange for delivery of like volumes in the Persian Gulf. I say at least 500,000 barrels a day because the actual take can be twice that if you then reverse the flow in the south-north pipeline and push another 500,000 barrels a day down the line to the Persian Gulf. One million barrels a day or so goes a long way towards solving the problem of what to do with Caspian Sea oil.

I estimate that the cost of such a scheme on the Iranian side is well below \$100 million for the off load

jetties and the spur line to link the Caspian Sea to the Tehran-Tabriz pipeline. There would be some additional costs to retrofit the two refineries for the differences in oil quality, but not much. On the other side, the principal additional investment would be in extra tankers required to ship the oil across the Caspian Sea. Overall, the savings are in the billions of dollars and years of time.

I digress for a moment to say that I do not suggest that the Central Asian Republics eventually move all their oil through Iran, any more than I recommend that Iran rely for very large volumes of its domestic refinery needs on its neighbors or their foreign operating companies. Diversity remains an important tenet of energy security for all parties in this region-- as it is internationally.

Having made that cautionary statement, it is also self evident that an advantage of these swap arrangements or virtual pipeline schemes is that they create interdependence. A pipeline that physically transits a third country can be cut off for political reasons over some unrelated dispute, or for commercial reasons to raise transit fees, or it can be blown up by any hostile party with a grievance. All three types of disruptions of oil pipeline flows have occurred time and time again. The interdependence created by swaps, however, means that any threat to trade damages both sides. Cut off my sales or my purchases, and I will cut off your purchases or sales. Raise my fees and I will raise yours. Plus, you cannot blow up a swap.

It is so obvious a solution. Why, then, has it not been enacted? The answer is politics, both regional and international. Regional given the rivalries and competition among promoters of alternative routes, and, in the last several years, the sometimes testy relations between Iran and Azerbaijan. But more importantly, international because of the all-the-time tense stand off between Iran and the United States.

Still, as noted earlier, U.S. sanctions

restricting investments in Iran's oil sector contain a loophole, and an intentional one at that, permitting swaps.

Let me underscore again how everyone benefits. The outside investor in these republics gets to export its production to world markets; the host government gets badly needed revenues from the transaction; Iran gets oil in the north where it needs it; and the world oil market gets more barrels from more producers, enhancing security of supply and helping keep prices in check. Everyone benefits, with the exception of competing pipeline sponsors in Russia, Turkey, the Taliban in Afghanistan and so on. But then again, there is room for enough pipeline routes to satisfy, in time, most everyone.

It is also important to note that the advantage to Iran of such swaps in commercial terms is minimal: simply the saving of the transportation cost of moving oil up the south-north trunk line, and even that saving has to be shared with others engaged in the scheme. We are probably talking pennies in savings a barrel; pocket change if you keep in mind that the price of oil moves more than that-- up or down-- each and every day. Sometimes more.

Still, while a governmental agreement has been reached to move Turkemen natural gas by pipeline through Iran to Turkey, and while some limited volumes of the Kazakh Government's share of production from the Tengiz field are swapped with Iran, none of the consortia of oil companies active in the region has so far dared to test this apparent loophole in U.S. sanctions policy. It is time for the international oil industry, and for the U.S. industry in particular, to pursue this obvious Iran solution to the export of Caspian Sea oil.

To the Iranian side, I offer a different proposal for kick-starting a re-engagement with the U.S. oil industry: improve the terms, the economic and operating terms, for participation in the country's oil exploration and production sector.

When Iran initially and reluctantly

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advocating a return to the oil relationship that existed in the 1950's, 60's or 70's. But to ignore the importance of Iran's oil is to do so at your own, and everyone else's, peril. For it is naive, even by Washington's standards, to believe that Iran will not again be a key player in the global oil market some time after the turn of the century, regaining its previous production levels, and thus its stature and significance in a world whose consumption levels continue to increase. And on the other side, it is wishful thinking, even by Tehran's standards, to believe that Iran's oil potential, particularly in the sphere of exploration and production, which is the sphere that really matters, can be realized fully and in a reasonable time frame without American technology, American capital, American entrepreneurial skills and American management know-how.

This is self-evident to me as one who has worked in, and is intimately familiar with, the oil industries of both countries.

But as obvious as these realities are, and as critical as the need to look beyond the current posturing and accusations and hostilities and threats and bruised egos and rhetoric, on both sides, the big picture-- that is, the longer-term view-- is held hostage to last week's and last month's and last year's squabbles.

What needs to be done? How can each side probe and challenge the existing political, legal and institutional constraints in an effort to put oil on the front, or at least on the side, burner?

From the U.S. point of view, the so-called Iran-Libya Sanctions Act of 1996 does not permit any investment by U.S. companies in oil sector activities in Iran, nor investments by non-U.S. companies in amounts exceeding \$20 million per year. But, the legislation and related guidelines have left a small, though not insignificant, opening that seemingly permits the participation of

U.S. companies in arrangements for the swap or exchange of oil produced in neighboring countries, notably the Central Asian Republics, for oil produced in Iran. Why is this important?

It is important because a critical impediment to the development of the oil and natural gas resources of the Caspian Sea is that although it is fairly simple, as these things go, to develop the many already discovered but untapped fields in this region, it is extremely challenging to figure out a way to get the supplies out to world markets, or at least in to the hands of paying, reliable customers. Nowhere else in the world is so much known oil and natural gas sitting unused for lack of physical access to markets.

One cannot access world markets because these fields, whether in the Caspian Sea itself or onshore in the key countries-- Azerbaijan, Kazakhstan and Turkmenistan-- are landlocked, and their natural paths to markets are through other countries either in conflict with themselves (Afghanistan or Georgia) or in conflict with their neighbors (Azerbaijan or Armenia or chechnya) or in conflict with powerful players beyond the region, in the case of Iran and the United States. Moreover, the potential transit countries are in competition with each other as they vie, against the odds, to be selected the export-route of choice.

This obstacle-- lack of export routes-- has to be removed before significant investments are made by enough companies to make the Caspian Sea region a serious player in the international energy scene.

In the case of landlocked countries, you seek out the shortest route to transport your oil to international sea lanes, at which point you obtain maximum mobility and flexibility to sell your cargoes to whomever you wish-- and at the best possible price-- in Europe, Asia or North America.

The potential routes from Central Asia to international sea lanes, and the

markets beyond, cross west to the Mediterranean, northwest to the Black Sea, due south to the Persian Gulf or southeast to the Arabian Sea. Ultimately, several pipeline routes will be selected because there will be more oil in this region than can exit through any one single pipeline-- we are probably looking at volumes in excess of 1 million barrels daily within five years and 2-3 million barrels daily within ten-- and also because it is inadvisable for reasons of security and transportation logistics to rely on any single exit or export strategy.

Finally, since you are dealing with at least three, maybe four, Central Asian Republics with oil to sell, and dozens of foreign companies, you are unlikely to get all to agree to any one approach or pipeline route. The squabbles among the various promoters of what has become the Caspian Pipeline Consortium, the largest to date, is a case in point.

Now back to swaps and, specifically, to the creation of a southern route through Iran using an oil exchange mechanism. I emphasize again that this is only one of several possible-- and probable-- routes, and although it is currently lowest on everyone's list of priority projects, it is the most feasible. That is to say, it is the most quick, cheap and even secure alternative likely to be available for some time.

What I have in mind is not the physical construction of a pipeline linking the Caspian Sea and the Persian Gulf, perse; rather, it is the creation of a "virtual" pipeline, one that does not have to be actually built at great cost, over a period of years, traversing thousands of kilometers of sometimes difficult terrain.

Instead, this virtual pipeline would be based on the unique circumstance of Iran's oil geography: two of Iran's largest refineries and an important part of the country's population and commercial and industrial energy consumption are concentrated in

OIL

IN U.S.- IRAN

RELATIONS*

Bijan Mossavar-Rahmani

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I am undertaking a difficult topic this afternoon: "Oil in U.S.-Iran Relations." Difficult because there are no U.S.-Iran relations to speak of and, certainly, there is no oil in U.S.-Iran relations. No Iranian oil is purchased by U.S. companies. No U.S. companies are active in Iran's oil sector. And Iranian oil officials cannot obtain visas to visit the United States, much less participate in any meaningful way in the activities of the biggest oil industry in the world.

That there is no oil in this non-relationship is underscored by the fact that I have been the only executive of the U.S. oil industry on the program of several recent conferences on the topic of U.S. foreign policy towards Iran. This would not have been the case in those gatherings, or even this one, 20 years ago, perhaps not even two years ago. And it will not be the case in future conferences held two years, or certainly 20 years, from now.

So I am challenged in my task only by virtue of the timing of these meetings.

Still, the topic deserves serious consideration and discussion-- today.

It has been said that wherever you dig in Iran, you either hit oil or uncover history, often both in the same place. I will therefore start with some oil facts and a little history.

The importance of oil in U.S.-Iran relations of the past, and again of the future, is driven by four things. One, Iran sits atop some of the world's largest tapped and untapped reservoirs of oil and natural gas. This country's oil reserves are the second largest in the world after Saudi Arabia's. And its natural gas reserves are the second largest in the world after Russia's. Two, Iran sits a stone's throw-- make that a day's drive or sail-- from other countries that together possess over one-half of the world's oil reserves and an irreplaceable portion of its daily production. Three, Iran sits astride the Persian Gulf, with a coastline longer than that of any other country along this body of water through which about one-half of the world's traded oil moves. Those tankers, too, are only a stone's throw away from Iran. And fourth, to the north, Iran sits conveniently between billions of barrels and trillions of cubic feet of Azeri, Kazakh and Turkmen oil and natural gas on the one hand, and the sea lanes of the Persian Gulf and access to the outside world on the other.

Most of you already know these facts. Still, they are worth repeating

again and again and again.

These facts were not lost on American policy makers in the 1950's, 60's or 70's. In fact, obsession with Iran's importance in the global oil supply picture was in large part responsible for the U.S. role in

overthrowing the government of Dr. Mohammad Mossadegh some 45 years ago. Many of you will recall that Mossadegh, who was Time Magazine's Man of the Year in 1951, was a popularly-appointed Prime Minister who nationalized Iran's oil, then owned, controlled and operated by the predecessor company to today's British Petroleum. After nationalization, panicked and humiliated, its oil supplies and its profits threatened, London solicited Washington's aid in staging a coup d'etat to overthrow Mossadegh. And Washington obliged, in return for about a one-half stake in Iran's oil for its own companies.

The memory in Iran of that event in 1953 helped trigger the 1979 take over of the American Embassy in Tehran, and the hostage crisis that ensued helped get us in the pickle that we are in today.

No one, least of all me, is